

A Study of the Dynamics of the Exclusive Electro-Disintegration of the Deuteron

W. Boeglin (*Spokesperson*), F. Klein, L. Kramer, P. Markowitz, B. Raue, J. Reinhold,
M. Sargsian

Florida International University

A. Klein (*Co-Spokesperson*), S. Kuhn, L.B. Weinstein
Old Dominion University

G. Batigne, C. Furget, S. Kox, E. Liatard, J. Mougey, E. Penel, J.-S. Réal, R. Tieulent,
E. Voutier (*Co-Spokesperson*)

Institut des Sciences Nucléaires, Grenoble

S. Jeschonnek
Jefferson Lab

W. Bertozzi, S. Gilad, D.W. Higinbotham, M. Rvachev, S. Sirca, R. Suleiman, Z. Zhou
Massachusetts Institute of Technology

E. Piasetzky
Tel Aviv University

M. Strikman
Pennsylvania State University

J. Templon
University of Georgia

J.-M. Laget
Centre d'Etudes de Saclay, Gif-sur-Yvette

Hall A Collaboration

December 14, 2000

Abstract

This proposal aims at a quantitative study of the dynamics of Final State Interactions, Meson Exchange Currents and Isobaric Currents in the electro-disintegration of the deuteron in order to investigate the short range structure of this few body system. The $D(e,e'p)n$ reaction will be studied by measuring the coincidence cross section for Q^2 -values of 1.0, 2.5, and 4.0 $(\text{GeV}/c)^2$ and recoil momenta values (p_{miss}) between 0.2 and 0.5 GeV/c . A complete angular distribution of the recoiling neutron with respect to the virtual photon will be obtained for each combination of fixed p_{miss} and Q^2 .